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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/164,427	09/30/1998	AMIR S. AFSHARY	042390.P5980	6655

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EXAMINER

HUYNH, SON P

ART UNIT	PAPER NUMBER
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2623

DATE MAILED: 09/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/164,427	<b>Applicant(s)</b> AFSHARY ET AL.	
	<b>Examiner</b> Son P. Huynh	<b>Art Unit</b> 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-5,7,10,12,25,26,28,30,32 and 33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,7,10,12,25,26,28,30,32 and 33 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1, 3-5, 7, 10, 12, 25-26, 28, 30, 32-33 have been considered but are moot in view of the new ground(s) of rejection.

Claims 2, 6, 8-9, 11, 13-24, 27, 29 and 31 have been cancelled.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3-5, 7, 10, 12, 25-26, 28, 30, 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carhart (US 6,622,304 B1) in view of Silverman (US 6,307,862).

Regarding claim 1, Carhart teaches a digital coaxial cable system (figure 5) comprising:

a building local area network comprising at least three clients (met by local area network for system 20 comprises at least three clients connected to interface device 26, interface device 27 and another interface device connected in existing in-home coaxial cabling (tree topology) – figure 5), at least three universal client interface adapters (met by interface device 26, interface device 27, another interface device (e.g. another interface device 27) that connected via cable 23 using tree topology – figure 5), at least one coaxial cable (coaxial cable 23, figure 5, col. 9, lines 47-48), and at least one carrier modulated digital signal (met by modulated digital signal carried in  $f_2$  or  $f_3$  – col. 11, lines 9-58), in which:

one universal client interface adapter of the at least three adapters is in communication with at least one of the at least three client and in communication with the at least two other of the universal client interface adapters, which are, respectively, in communication with at least one other of the clients of the network (interpreted as one of the at least one interface device 27 is in communication with at least one client (e.g. TV 22) and in communication with the at least another interface device 27 in communication with another client (e.g., HDTV) and interface device 26 in communication with another device (e.g. PC 21) – see including, but are not limited to, figure 5; col. 11, lines 9-56; col. 13, lines 44-55; col. 14, lines 20-54);

the at least one coaxial cable (23 –figure 5) is coupled between the universal client interface adapters (interface device 26 and interface devices 27 – figure 5), the at least one coaxial cable having an operating frequency spectrum, the operating frequency spectrum having at least a first portion (frequency band  $f_1$  from a nearly

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CATV system into home – col. 9, lines 1-14) and a second portion, the second portion operating at a frequency greater than 860 MHz (frequency band  $f_2$  and  $f_3$  –col. 11, lines 10-41); and

the at least one carrier modulated digital signal having a frequency that occupies the second portion of the operating frequency spectrum of the coaxial cable, the at least one carrier modulated digital signal transmitted in the coaxial cable coupled between the universal client interface adapters (modulated digital signal carried in  $f_2$  and  $f_3$  band transmitted in coaxial cable 23 coupled between interface device 26 and interfaces devices 27- see including, but are not limited to, col. 11, lines 7-41; col. 13, line 50-col. 14, lines 19-67).

Carhart also discloses the at least three universal client interface adapters to provide, through the modulated digital signal, within the second portion of the operation frequency of the cable, bidirectional communication between the at least three clients of the local area network (interpreted as interface device 26 and interface devices 27 to provide, through the modulated digital signal carried within  $f_2$  and  $f_3$  of the coaxial cable 23, directional communication between the clients such as PC 21, TV 22, HDTV, etc. of the local area network using system 20 – see include, but are not limited to, figures 5,7-10, col. 14, lines 1-54). However, Carhart fails to explicitly disclose using time division multiple access communication in the local area network.

Silverman discloses using bidirectional time division multiple access communication in the local area network (e.g. using two way time division multiple access communication

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between many appliances 26, television 28, etc. over coaxial cable 25 of a local area network – see including, but are not limited to, figures 4-6, col. 1, lines 35-62).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Carhart to use the teaching as taught by Silverman in order to obtain additional channels for additional clients (col. 4, lines 1-9), and therefore, minimize interference of signal transmitted between clients.

Carhart discloses the second portion operating at a frequency (frequency for  $f_2$  and  $f_3$ ) greater than 860 MHz (see including, but is not limited to, col. 11, lines 9-53). However, Carhart does not specifically disclose a frequency greater than 1000 MHz.

The skilled engineer can select any operating frequency range above 860 MHz to transmit signals on a coaxial cable in compliance with FCC regulations but limited to the capability and characteristics of the transmission medium and devices communicating on the medium. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Carhart in view of Silverman to include the frequency greater than 1000 MHz so long as the frequency desired is in compliance with FCC regulations but limited to the capability and/or characteristics of the transmission medium and devices communicating on the medium.

Regarding claim 3, Carhart further teaches the at least one carrier modulated digital signal is an in-home signal (signal transmitted in  $f_1$  and  $f_2$  bands – col. 11, lines 10-41)

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and the coaxial cable (23) is tapped off of a public cable network (cable network 24- figure 5).

Regarding claim 4, Carhart additionally teaches a low pass filter (30 – figures 2-3) coupled upstream of the in home signal (col. 9, lines 35-46).

Regarding claim 5, Carhart further teaches the low pass filter having a cut off frequency less than 1000 MHz (low pass filter 30 having a cut off frequency of 750MHz – col. 9, lines 35-42).

Regarding claim 7, Carhart additionally teaches the at least one carrier modulated digital signal is an in home signal (signals transmitted in f2 and f3 band in the in home network – col. 11, lines 8-45), the cable LAN (in home network) further comprising a low pass filter (30) coupled upstream of the in home signal to a public cable network (24) – see figures 2-3), wherein the carrier modulated digital signal is generated downstream of the low pass filter (generated by interface 26 downstream of LPF 30 – figures 2-3, 5 and col. 11, lines 8-41).

Regarding claim 10, Carhart further discloses the carrier modulated digital signal operating frequency is greater than 860 MHz (col. 11, lines 10-40) and as discussed in the rejection of claim 1. However, Carhart does not specifically disclose the operating frequency is between 1000 MHz and 2000 MHz.

The skilled engineer can select any operating frequency in any range to transmit signals on a coaxial cable in compliance with FCC regulations but limited to the capability and characteristics of the transmission medium and devices communicating on the medium. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Carhart in view of Silverman to include the frequency to be of any value of range such as between 1000 MHz and 2000 MHz so long as the frequency desired is in compliance with FCC regulations but limited to the capability and/or characteristics of the transmission medium and devices communicating on the medium.

Regarding claim 12, Carhart further teaches the “signal operating frequency” has a bandwidth of at least 5 MHz (col. 1, lines 62-65).

Regarding claim 25, Carhart discloses a method for communicating, within a site-based local area network (met by network using system 20 – figure 5), between a first universal client interface adapter (26) and a second universal client interface adapter (27) coupled by a coaxial cable (23) – figure 5, the method comprising:

receiving digitized data in the universal client interface adapter (26) from a client (21) – figure 5 and col. 11, lines 8-32);

processing the data within the first client interface adapter (26) into a modulated signal having a signal operating frequency that is greater than 860 MHz (col. 11, lines 8-32); and



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communicating, through at least a portion of the sited-based local area network, the modulated signal from the first universal client interface adapter (26) to the second universal client interface adapter (27) through coaxial cable (23) – col. 11, lines 8-41; col. 13, line 12, lines 24-56 and figure 5. However, Carhart fails to explicitly disclose the signal is time-division multiplexed.

Silverman discloses the signal communicated between devices is time division multiplexed (e.g. using two way time division multiple access communication between many appliances 26, television 28, etc. over coaxial cable 25 of a local area network – see including, but are not limited to, figures 4-6, col. 1, lines 35-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Carhart to use the teaching as taught by Silverman in order to obtain additional channels for additional clients (col. 4, lines 1-9), and therefore, minimize interference of signal transmitted between clients.

Carhart discloses the second portion operating at a frequency (frequency for  $f_2$  and  $f_3$ ) greater than 860 MHz (see including, but is not limited to, col. 11, lines 9-53). However, Carhart does not specifically disclose a frequency is between 1000 MHz and 2000 MHz with a center frequency about 1350 MHz.

The skilled engineer can select any operating frequency range above 860 MHz (as a result, with any value of center frequency since the center frequency depends on the operating frequency range (lower and upper frequencies)) to transmit signals on a

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coaxial cable in compliance with FCC regulations but limited to the capability and characteristics of the transmission medium and devices communicating on the medium. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Carhart in view of Silverman to include the frequency range to be of any values such as between 1000 MHz and 2000 MHz, with center frequency of any value, based on the operating frequency range, such as 1350 MHz so long as the frequency desired is in compliance with FCC regulations but limited to the capability and/or characteristics of the transmission medium and devices communicating on the medium.

Regarding claim 26, Carhart further teaches:

modulating the digitized data into an analog wave form (NTSC video from, PAL format, etc. – col. 11, lines 8-32; col. 12, lines 25-45);

converting the modulated data into a analog signal having an intermediate (col. 11, lines 8-32; col. 12, lines 25-56);

increasing the intermediate frequency to a frequency ( $f_2$ ) that is greater than the signal cut off frequency ( $f_1$ ) – col. 11, lines 8-32; col. 12, lines 40-50). Carhart further discloses the video signal is next transmitted via a diplex filter 75 out of the port 700 onto the attached coaxial cable 23 (col. 12, lines 50-56 and figure 7). Necessarily, the power of the signal is amplified to transmit the video signal.

Regarding claim 28, Carhart discloses a cable communication system (figure 5) comprising:

a site-based local area network comprising a plurality of client devices, a plurality of universal client interface adapters, and at least one coaxial cable (interpreted as the network of system 20 comprises a plurality of client devices such as PC 21, TV 22, HDTV, etc., a plurality of client interface adapters such as interface device 26, interface devices 27, a at least one coaxial cable 23 – see including, but are not limited to, figures 5, 7-10, col. 11, lines 6-57; col. 14, lines 1-54);

at least one of the plurality of client devices (e.g., PC 21) to transmit a digital data signal to a universal client interface adapter (e.g., interface device 26) of the plurality of adapters – see including, but are not limited to, figures 5, 7-10, col. 11, lines 6-57; col. 14, lines 1-54);

the universal client interface adapter (e.g. interface device 26) to process the digital data signal into a carrier modulated digital signal (col. 11, lines 7-32);

the at least one coaxial cable (23) to connect the universal client interface adapter to at least one additional client interface adapter (e.g. interface device 27) of the plurality of adapters and to communicate the carrier modulated digital signal from the universal client interface adapter to the at least one additional universal client interface adapter (communicate modulated digital signal from interface device 26 to interface device 27 – figure 5, col. 11, lines 7-32); and

the at least one coaxial cable (cable 23) to communicate another carrier modulated digital signal at the operation frequency from the at least additional universal

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client interface adapter to the universal client interface adapter (e.g., modulated digital carried in f3 band from interface device 27 to interface device 26 – figures 5, 10, col. 11, lines 33-59). However, Carhart fails to explicitly disclose the signal is disposed within a different time-slot of a time division multiplexing scheme.

Silverman discloses the signal is disposed within a different time slot of the time division-multiplexing scheme for communicating between devices (e.g. using two way time division multiple access communication between many appliances 26, television 28, etc. over coaxial cable 25 of a local area network – see including, but are not limited to, figures 4-6, col. 1, lines 35-62; col. 4, lines 1-9). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Carhart to use the teaching as taught by Silverman in order to obtain additional channels for additional clients (col. 4, lines 1-9), and therefore, minimize interference of signal transmitted between clients.

Carhart discloses the second portion operating at a frequency (frequency for  $f_2$  and  $f_3$ ) greater than 860 MHz (see including, but is not limited to, col. 11, lines 9-53). However, Carhart does not specifically disclose a frequency is between 1000 MHz and 2000 MHz.

The skilled engineer can select any operating frequency range above 860 MHz to transmit signals on a coaxial cable in compliance with FCC regulations but limited to the capability and characteristics of the transmission medium and devices communicating on the medium. Therefore, it would have been obvious to one of ordinary skill in the art

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at the time the invention was made to modify the system of Carhart in view of Silverman to include the frequency range to be of any values such as between 1000 MHz and 2000 MHz so long as the frequency desired is in compliance with FCC regulations but limited to the capability and/or characteristics of the transmission medium and devices communicating on the medium.

Regarding claim 30, Carhart further discloses the carrier modulated digital signal operating frequency is greater than 860 MHz (col. 11, lines 10-40) and as discussed in the rejection of claim 28. However, Carhart does not specifically disclose the operation frequency has a center frequency about 1350 MHz.

The skilled engineer can select any operating frequency with any value of center frequency (center frequency depends on the operating frequency range between lower and upper frequencies) to transmit signals on a coaxial cable in compliance with FCC regulations but limited to the capability and characteristics of the transmission medium and devices communicating on the medium. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Carhart in view of Silverman to include the frequency to be of any value of center frequency such as about 1350 MHz so long as the frequency desired is in compliance with FCC regulations but limited to the capability and/or characteristics of the transmission medium and devices communicating on the medium.

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Regarding claim 32, the additional limitations as claimed correspond to the additional limitations as claimed in claim 12, and are analyzed as discussed with respect to the rejection of claim 12.

Regarding claim 33, Carhart further teaches the normal coaxial cable system transmits signals external to the cable LAN (see figures 5, col. 9, line 60-col. 10, line 2).

### ***Conclusion***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lancelot et al. (US 6,026,086) discloses apparatus, system and method for a unified circuit switched and packet based communications system architecture with network internetworking functionality.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son P. Huynh whose telephone number is 571-272-7295. The examiner can normally be reached on 9:00 - 6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher S. Kelley can be reached on 571-272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Son P. Huynh

August 29, 2006



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